

SGR J1745-29: Swift discovery and monitoring of a new SGR near Sgr A*

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Starting in 2013 February, Swift has been performing short daily monitoring observations of the G2 gas cloud near Sgr A* with the X-Ray Telescope to determine whether the cloud interaction leads to an increase in the flux from the Galactic center. On 2013 April 24 Swift detected an order of magnitude rise in the X-ray flux from the region near Sgr A*. Initially thought to be a flare from Sgr A*, detection of a short hard X-ray burst from the same region by the Burst Alert Telescope suggested that the flare was from an unresolved new Soft Gamma Repeater, SGR J1745-29. Here we present the discovery of SGR J1745-29 by Swift, including analysis of data before, during, and after the burst. We cover the entire light-curve of the SGR outburst so far, from discovery through to the source entering a Swift Sun constraint in November 2013. Thanks to the interest in G2 and its location near the Galactic Center, SGR J1745-29 has become one of the best monitoring SGRs in outburst yet seen.